



Ø BEAT

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APRIL 1983

Home Brew Low-Band Smoke!

DER BARKUNDSARKER IS BORN FOR UNDER \$50 BUCKS

Working any band "barefoot" may temporarily satisfy the newcomer and I'll admit to the sport of true QRP which is a special "art" but for an old-timer of 50 years in the fray (40 of that in Kilowatt Alley) it seems only common sense to wear a stout pair of boots through the cactus.

I was content to operate barefoot on 160 along with the rest but when FCC raised the power limits to a KW I no longer could meet the competition. My trusty old 5B 220 only covered through 80 so it looked like I was up the proverbial creek. A quick survey of the 220 revealed a major mod, required to stretch it to 160 so I decided to start from scratch and leave a good working 220 intact.

Having decided thus, the first stop was at the junk-box to rediscover some treasures that wired together might generate lots of smoke—hi. I found for starters, a pair of 3-400Zs and a compact power transformer which with a voltage doubler rectifier might give me 3000V at enough current to make at least one tube blush. A couple of 3 inch Westone 307s would look nice on the panel and besides I could read them without my specs contrary to a lot of the commercial rigs on the market with a single 2 inch meter and a multi-meter switch. Along with a couple of relays, a handful of capacitors, some RF chokes, switches, fuse holders, indicator lite assembly, and a mess of miscellaneous hardware I had there piled on the bench I had the makings of my 160 meter linear — Hot Diggetty Dog!

I paid a scrounging visit to my friends' junk boxes too, and came up with some jewels like the perfect 5 section broadcast receiver variable (1750pf) for the output of the Pi network and a prima transmitting RF choke from NØBQV in Aurora. My meters checked out bad so I got replacements from KØROL locally and WBØPRT in Evergreen, Colo. Wally, NØCGS of Lake George, Colo.

made my day with the gift of a couple industrial motor-start capacitors rated at 20 mf. each at 660VAC which one would assume would be good for about twice that at DC but Wally said don't be afraid to use them in series across 3000V because he had used them singly across 3000V with no ill effects. (They are beautiful). A bifilar filament choke, a keying relay, and an isolantite coil from WØCKJ and Man, I'm ready to start planting parts — now if only I had a chassis to plant them on — here's where Rosie's "silent-key" sale came to my rescue with the most timely provision of nearly everything else the embryo needed which included among skads of miscellany a 15x7x3 inch chassis, several sizeable scraps of 3/16 aluminum panel and another ideal high voltage variable for the input of the Pi network.

The 15 inch chassis dictated the dimension of the RF unit and the largest scrap of 3/16 aluminum panel provided the bottom plate with an extra 5 inches apron beyond and behind the chassis on which the power transformer and filters were mounted — thus the chassis could be unbolted and removed separately for convenience of construction and maintenance. The tube socket was improvised from an ingenious design by WØCKJ. It consisted of 3 solid clips bolted directly to the edges of the 2 inch hole in the chassis under the tube for free air circulation, thus grounding the grid while supporting the tube mechanically and the remaining 2 clips connecting the filaments while similar were of necessity insulated from the chassis. The 220V whisper fan was mounted under the tube on the bottom plate drawing in air thru perforations drilled for that purpose. The cabinet was fabricated easily from perforated anodized aluminum sheet commonly available at most hardware stores. It hooks a rear lip over the back of the base plate then tips down forward over the linear to the

(continued on page 4)

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ZERO BEAT is published monthly in the interest of the members of the Pikes Peak Radio Amateur Association, Inc., Colorado Springs, Colorado. Permission is given to reprint articles or excerpts provided credit is given. Deadline for submission of articles is the 21st of the month. Classifieds accepted anytime.

The Pikes Peak Radio Amateur Association meets on the second Wednesday of every month at the First United Methodist Church, 420 N. Nevada, at 7:30 p.m. All amateurs and interested parties are invited to attend.

Editor: Don Lohse KBØKQ, 1410 E. LaSalle, Colorado Springs, CO 80907 635-7469

MARCH MEETING MINUTES

The March meeting of the Pikes Peak Radio Amateur Association was called to order by Dave NØDV at 7:38 p.m. Introductions were followed by the approval of minutes and a treasurer's report, which was also approved.

Committee reports were taken, and Don KBØKQ got up and spoke a few words concerning the imminent demise of the novice classes and the crying need for instructors. Charlie KCØTI offered to teach the theory class, and Ralph KAØMTX and Harley KCØTQ will handle the CW. Swapfest was discussed and appears to be progressing well. Ken WOTGL gave a report on Festival happenings (many are still only tentative) and encouraged the group to get into the effort.

The program on packet radio was given by Andy NØCCZ and Tom ADØO, and covered the TAPR packet radio system. A video taped presentation gave us some views of the hardware systems and concepts of the TAPR Terminal Node Controller board. The discussion that followed was cut short by lack of time, and will continue at the next meeting. The meeting adjourned at 9:52 p.m.

Respectfully Submitted
Don KBØKQ

MEETING NOTICE

The April meeting of the Pikes Peak Radio Amateur Association will be held on April 13 at 7:30 p.m. at the First United Methodist Church located at the corner of Nevada and Boulder streets. A continuation of the discussion on packet radio and a NASA film on communications systems will provide the entertainment. Sign up will begin for the National Sports Festival — and if you want to work a particular event, come and put your name on the line. All members and other interested persons are encouraged to attend.

FOR SALE — Swan Cygnet Xcvt, 1200X linear, modile power supply, mike, all manuals.\$450. KC Stafford WAØTVJ 596-3522 after 6.

FOR SALE — Heath Twoer-make offer. Also looking for somebody going to Dayton. Jim KØSPS 475-2753.

FOR SALE — ASR model 28 printer (60-75 & 100 wpm Teletype Corp. tape coter and reader—\$350. Slope face operators position and rack, with Collins phone patch and station control. Built in refectometer and view meter—\$100. Central Electronics 100V transmitter, SSB, CW, phase modulation, double side band and RTTY (broadband tuning)—\$200. 600L broadband linear amplifier—\$200. 390A Collins general coverage receiver (mint) with manual—\$350. Technical Material Corp, frequency shift convertor (with dual diversity)—\$50. 75SC3 Collins receiver (mint) with manual—\$900. Onan 3.5 KW 4 cylinder skid mounted generator—perfect for field day or cabin—\$250. Call Pete WØVI for appointment to see. 475-9666.

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BOARD MINUTES

The regular board meeting of the Pikes Peak Radio Amateur Association was called to order at 7:30 p.m. March 14, 1983 in the home of Les Borst KCØNC. Members present were Dave NØDV, Les KCØNC, Jake ØCYR, Mark KAØJXW, Bud NØDDF, and Tom ADØO.

New novice classes will begin March 29th at North Junior High. Charlie KCØTI will teach the theory with the help of Don KBØKQ. Ralph Streamer KAØMTX will help teach code. Classes will be Tuesday and Thursday evenings.

The 1983 Health Fair is fast approaching and communications help is needed. Dates are: April 11—12 at PPCC; April 13—14 at Memorial Hospital; April 15 at PPY-USO. Those who desire to help should contact Jim Colvin, NOAVY as soon as possible.

A small demo is being considered for the Chapel Hills Mall. It would be held around Thanksgiving. A volunteer to coordinate the demo is needed. Contact Dave NØDV for info.

Upcoming programs are as follows. April — a possible update on packet radio since interest was high in March. Also the movie "If One Today, Two Tomorrow," a NASA film (1976). The film "addresses the need for the worldwide use of communication technology for learning and growing as world population increases. The film takes you to India, Pakistan, El Salvador, Niger, Kenya, Thailand, Equador, Bolivia, Guatemala, Alaska and remote Indian communities in the U.S. It graphically describes how radio, television, and communications satellite systems are used as instruments for education." May and June will be on the sports festival.

Swapfest tickets are available. Contact Charlie Biggs or arley Hanson to receive them. Money should also be turned in to Charlie or Harley. Flyers are being distributed throughout Colorado. Concessions are being arranged by Jake and a bake sale will again be held.

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Dick Kohlhaas, W5UDM

A decision on the style for the club "business" cards was made. They will be slightly smaller than the current membership card and will carry the club logo and the words "Ask me about ham radio." Three lines will be available for call, name, phone, or other information when given out.

A mailing to the hams in the area concerning the Sports Festival was seen as a need. Dave moved that the club spend about \$40 to purchase mailing labels from the Amateur Radio Callbook. Bud seconded and the motion passed unanimously. Mark will contact the Callbook for rates and numbers and write a letter requesting the labels.

Dave also moved that Ken WØTGL be given \$50 to defray his expenses in coordinating the clubs efforts with the Sports Festival. Jake seconded and the motion passed unanimously.

There being no further business before the board, the meeting was adjourned at 9:25 p.m. The next meeting will be April 18th, 7:30 p.m. at Charlie's, 302 Quebec St.

Respectfully submitted,
Mark KAØJXW

SPORTS FESTIVAL

As noted in the meeting announcement, sign up will begin for the festival at this meeting. It is important that we get an idea of what shape the communications will be in, by knowing who is working what, with what equipment, etc. In this issue is a sheet which contains a tentative schedule and an information sheet on your equipment and what events you want to work. Make a copy of the equipment sheet, fill it out and send to Dave Stivers WBØSSC at the address listed. Keep the original so you have the schedule, and a record of what information you sent to Dave.

Now is the time to come forward and get involved in this most ambitious and demanding public service event. Sign up early!!!

SWAPFEST GOODIES

The bake sale at the Swapfest is a fun way to raise some money and help make the event a success. If you would like to contribute something for the sale, give Jody Borst a call at 634-3995. A couple dozen cookies, a cake, a pie, home made bread—anything is welcome and appreciated.



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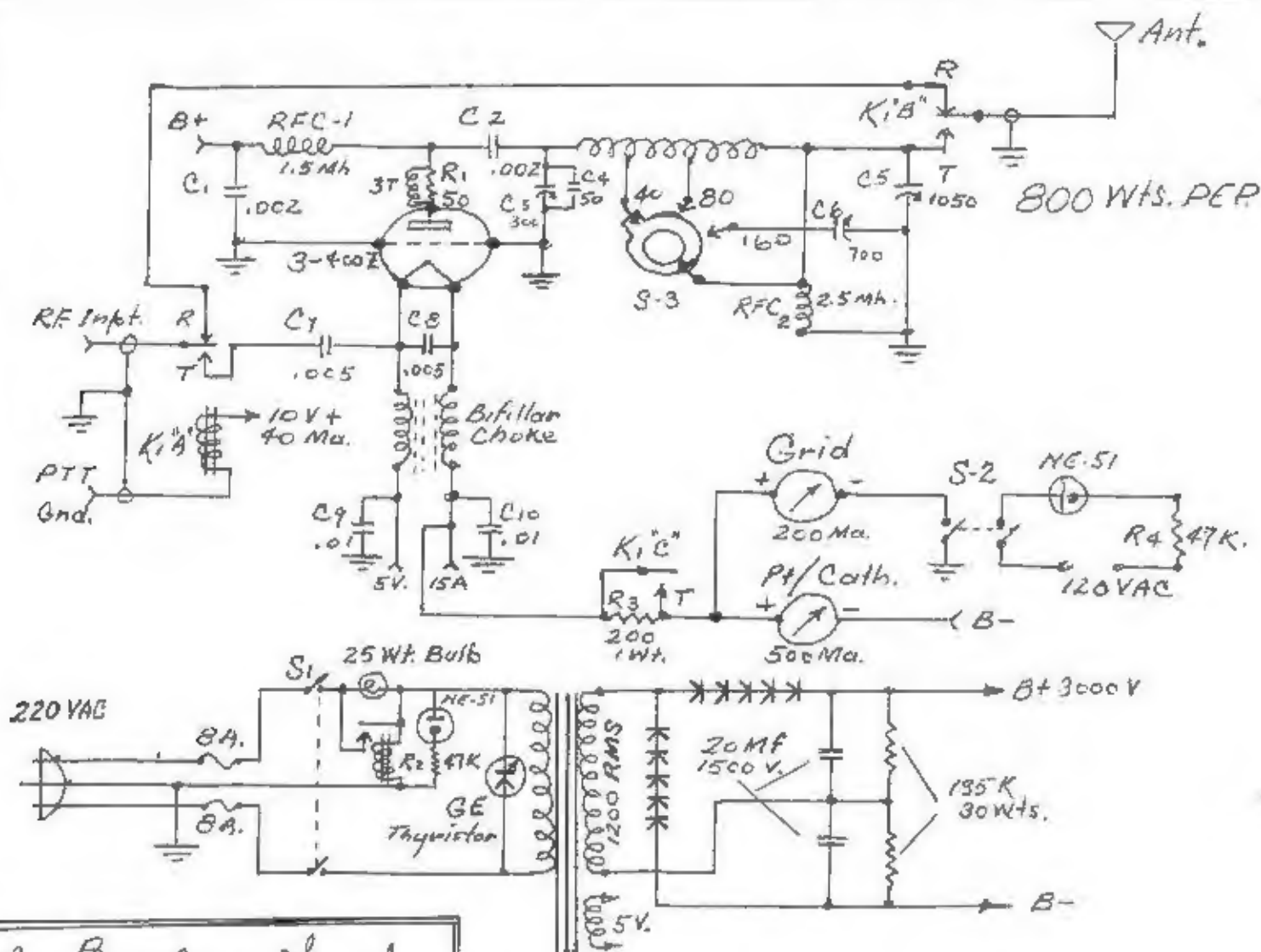
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Der Barkundsparker

By: WØ Two Gun Louie.

Der Barkundsparker Circuit

Barkundsparker (cont.)

front panel where it is secured by 2 thumb-screws, one on each side and can be removed for access in a matter of seconds.

One of my favorite linears over the years was the famed "Loudenboomer", a popular product of KC, Mo. in the sixties, so much so in fact that Bill Halligan bought the rights to it and produced it as the Hallicrafter HT-44. I borrowed that philosophy generally and stirred in a few "Two Gun Louie" embellishments like two sizeable meters and no switch, also, an AC surge relay together with a primary series resistor (which works FB) and the seeds began to sprout — and right before your very eyes **der Barkundsparker** was born. (I couldn't very well call it another Loudenboomer — could I?) It delivers 800 Watts PEP output on 160, 80, and 40 and needless to say things have been pleasingly different on the strip since. Not at all bad for under \$50 don't you agree?

Ken WØTGL

Tnx to Ken for this interesting article and project

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Icom 22S \$99.
Santec desk quick charger \$69.
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Genave GTX 2 12 ch. 2 meter FM, local xials \$75.
Tempo S1T synth. 2 watt HT w/TTP, wall and desk chrg., duck and extendable antenna. Similar to Icom IC2AT \$175.
Icom 230 synth. 2 mtr. \$150.
Icom 2025 2m meter CW/SSB 3W PEP \$145.
Icom 720A — Like new \$849.
Galaxy 5 w/ AC supply and speaker \$195.
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MANUFACTURER'S ADVERTISING TERMS DEFINED

Here are a few definitions that might help in deciphering some of the fancy advertisements for new gear.

NEW: Different color from previous design.

ALL NEW: Parts not interchangeable with previous design.

EXCLUSIVE: Imported product.

UNMATCHED: Almost as good as the competition.

DESIGN SIMPLICITY: Manufacturers costs cut to bone.

FOOLPROOF ADJUSTMENT: No provision for adjustment.

ADVANCED DESIGN: Ad writer doesn't understand it.

IT'S HERE AT LAST: Rush job, nobody knew it was coming.

FIELD TESTED: Manufacturer lacked test equipment.

HIGH ACCURACY: Unit on which all parts fit.

DIRECT SALES ONLY: Manufacturer had argument with distributor.

RUGGED: Too heavy to lift.

LIGHTWEIGHT: Lighter than Rugged.

YEARS OF DEVELOPMENT: Finally got one that worked.

UNPRECEDENTED PERFORMANCE: Nothing we had ever worked like this.

BREAKTHROUGH: We finally figured out a way to sell it.

FUTURISTIC: Can't figure out another reason why it looks the way it does.

ENERGY SAVING: Achieved when the power switch is off.

DISTINCTIVE: A different color or shape from the competition.

NO MAINTENANCE: Impossible to fix.

REDESIGNED: Previous faults are corrected, we think.

HAND CRAFTED: Machine that assembles it is operated without gloves.

PERFORMANCE PROVEN: Will operate through the warranty period.

MEET QUALITY STANDARDS: Our, not yours.

SATISFACTION GUARANTEED: Manufacturers, upon receipt of your check.

TNX to CORA C&E, May 1980 & EE Times, Feb. 1980

THE PACKET POCKET

By John Varga, WA8ZIA

Part Three

HOW TO GET IN ON PACKET RADIO

There are currently two TNC designs available. The first packet radio TNC was designed by the Vancouver Amateur Digital Communications Group (VADCG). The Vancouver TNC is available as a bare board, and requires a power supply, and external modem, and parts. It comes with instructions and notes on the power supply. A modem kit is also available from VADCG. The TNC design is based on the Intel 8085 CPU and 8273 HDLC controller and includes 4K bytes of 2114 RAM and 4K bytes of 2708 EPROM. The TNC requires an 8250 (serial

(continued on page 6)

Packet Radio (cont.)

ports) or an 8255 (parallel ports) for interface to the terminal, as well as an interface to the radio.

The Tucson Amateur Packet Radio Group (TAPR) is currently testing a second TNC design. This TNC has the modem, radio interface, serial and parallel terminal interfaces, and power supply circuitry (exclusive of the transformer) on a single board. It is based on the 6502 microprocessor (editor's note: the board will now use the Motorola 6809E microprocessor), and can hold a total of 48K bytes of RAM and ROM on the board. The 1933 HDLC chip it uses is compatible with the 8273 chip used on the VADCG board, and the TAPR TNC will be capable of VADCG-compatible protocol. Additional information on TAPR activities is available from Tucson Amateur Packet Radio, PO Box 22888, Tucson, AZ 85734.

Thanks to QSP, April 1983

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